

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

RESIDUE MANAGEMENT, SEASONAL

(Acre)

CODE 344

DEFINITION

Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during part of the year, while growing crops in a clean tilled seedbed.

It also includes the management of residues from biennial or perennial seed crops from the time of seed harvest until regrowth begins the next season.

CRITERIA

General Criteria Applicable to All Purposes

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following:

Residue shall be uniformly distributed over the entire field.

- Reduce sheet and rill erosion.
- Reduce soil erosion from wind.
- Reduce off-site transport of sediment, nutrients or pesticides.
- Manage snow to increase plant available moisture.
- Provide food and escape cover for wildlife.

Combines or similar machines are used for harvesting shall be equipped with spreaders capable of redistributing residues over at least 80 percent of the working width of the header.

Residues shall not be burned unless burning is an accepted practice in an integrated pest management (IPM) program developed and recommended by the University of Wyoming.

Additional Criteria to Reduce Sheet and Rill Erosion

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all cropland and other land where crops are grown.

The amount of residue needed to reduce erosion within the soil loss tolerance (T) or any other planned soil loss objective, shall be determined using currently approved erosion prediction technology.

Seasonal Residue Management includes managing residues of annual crops from harvest until the residue is:

Partial removal of residue by means such as baling or grazing, shall be limited to retain the amount needed to meet the erosion reduction objective. The remaining residue shall be maintained on the surface through periods when erosion has the potential to occur, or until planting, whichever occurs first. Erosion prediction estimates shall account for the

Buried by tillage for seedbed preparation

Removed by grazing

Mechanically removed

effects of other practices in the conservation management system.

Any tillage that occurs during the management period shall be limited to methods, which leave residue on the surface and maintain the planned cover conditions.

Additional Criteria to Reduce Soil Erosion From Wind and Sheet and Rill Erosion from Water

The amount of residue needed to reduce erosion within the soil loss tolerance (T) or any other planned soil loss objective, shall be determined using currently approved wind erosion prediction technology. Partial removal of residue by means such as baling or grazing, shall be limited to retain the amount needed to meet the erosion reduction objective. The remaining residue shall be maintained on the surface through periods when soil erosion has the potential to occur, or until planting, whichever occurs first. Erosion prediction calculations shall account for the effects of other practices in the conservation management system.

Any tillage that occurs during the management period shall be limited to methods, which leave residue on the surface and maintain the planned cover conditions.

Additional Criteria to Reduce Off-site Transport of Sediment, Nutrients or Pesticides.

The amount and orientation of residue required to reduce off-site movement of agricultural chemicals during the specified period shall be determined using the appropriate assessment tool(s), Phosphorus Index (PI), Leaching Index (LI), erosion prediction technologies, or other recognized tools for the site conditions.

Additional Criteria to Manage Snow to Increase Plant Available Moisture

Stubble shall be left standing as high as possible by the harvesting operation, but not less than 6 inches in any case.

Stubble shall be maintained in a standing orientation over winter to trap and retain snow. Any tillage that occurs during this period shall be limited to undercutting tools such as blades, sweeps, or deep tillage implements such as rippers or subsoilers.

Loose residue may be removed providing that the remaining residue is left standing.

Additional Criteria to Provide Food and Escape Cover for Wildlife

The amount of residue, height of the stubble, and length of the management period necessary for meeting habitat requirements for the target species or wildlife population shall be determined using an approved habitat evaluation procedure.

Residues shall not be removed unless it is determined by the habitat evaluation procedure that such removal will not adversely affect habitat values.

Tillage shall be delayed until the end of the management period to maintain the food and cover value of the residue.

CONSIDERATIONS

Excess removal of plant residue by baling or grazing often produces negative impacts on resources. These activities should not be performed without full evaluation of impacts on soil, water, animal, plant, and air resources.

Production of adequate amounts of crop residue necessary for the proper functioning of this practice can be enhanced by selection of high residue producing crops and crop varieties, by the use of cover crops, and by adjustment of plant populations and row spacing.

When planting on a low residue seedbed, exposure to erosion can be minimized by completing tillage and planting in a single operation, or by performing primary tillage no more than three days before planting.

When planting on a low residue seedbed in areas with limited moisture, moisture for germination can be increased by completing tillage and planting in a single operation, or by performing primary tillage no more than three days before planting.

The effectiveness of stubble to trap snow increases with stubble height. Stubble taller than the six-inch minimum will increase the amount of snow trapped. Variable height stubble patterns may be created to further increase snow storage.

The value of residue for wildlife habitat can be enhanced by leaving one or two rows of unharvested crop standing at intervals across the field.

PLANS AND SPECIFICATIONS

Specifications for establishment and operation of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and O&M described in this standard.

Specifications shall be recorded using approved certification sheets, job sheets, narrative statements in the conservation plan, or other acceptable methods.

OPERATION AND MAINTENANCE

No operation and maintenance requirements, national in scope, have been identified for this practice.